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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/027,205	02/20/1998	CARL H. JUNE	GIN-005	2825

7590 01/22/2003

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EXAMINER	
ROARK, JESSICA H	

ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 01/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/027,205	Applicant(s) JUNE ET AL.	
	Examiner Jessica H. Roark	Art Unit 1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,55,60,75 and 87-94* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 55, 60, 75 and 87-94* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 February 1998* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

RESPONSE TO APPLICANT'S AMENDMENT

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/12/02 has been entered

2. Applicant's amendment, filed 11/12/02 (Paper No. 32), is acknowledged.
Claims 2-54, 56-59, 61-74 and 76-86 have been cancelled previously.
Claims 60 and 75 have been amended.
Claims 1, 55, 60, 75 and 87-94 are pending and are under consideration in the instant application.

3. This Office Action will be in response to applicant's arguments, filed 11/12/02 (Paper No. 32). The rejections of record can be found in the previous Office Action (Paper Nos. 16, 19, 26 and 29).

It is noted that New Grounds of Rejection are set forth herein.

Claim Rejections – 35 U.S.C. §§ 102 and 103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(f) he did not himself invent the subject matter sought to be patented.

5. Applicant's comments, filed 11/12/02, with respect to In re Katz and the planned Petition to Correct Inventorship are acknowledged.

The June Declaration under 37 CFR 1.132 filed 11/12/02 is insufficient to overcome the rejection of claims 1, 55, 87-90, 92 and 94 based upon Levine et al. (Science 272:1939-1942 1996, IDS #CH as set forth in the last Office action because: the June Declaration indicates that not only did Carl H. June, Richard G. Carroll, James L. Riley and Daniel C. St. Louis conceive of the work describe in the Levine et al. paper, but Bruce L. Levine did as well. Thus the Levine et al. reference is, at this time, still "by another" and available as prior art.

6. Claims 1, 55, 87-90, 92 and 94 are rejected under 35 U.S.C. 102(f) because Applicant did not invent the claimed subject matter.

As noted supra, the June Declaration under 37 CFR 1.132, filed 11/12/02, sets forth that not only did Carl H. June, Richard G. Carroll, James L. Riley and Daniel C. St. Louis conceive of the instantly claimed subject matter, but Bruce L. Levine did as well.

7. Claims 1, 55, 87-90, 92 and 94 stand rejected under 35 U.S.C. 102(a) as being anticipated by Levine et al. (Science 272:1939-1942 1996, IDS #CH, see entire document).

Applicant's arguments based on the June Declaration under 37 CFR 1.1.32, filed 11/12.02, are acknowledged and have been addressed supra.

The rejection is maintained for the reasons of record, as re-iterated below:

Levine et al. teach a method comprising contacting T cells with a solid phase surface comprising an anti-CD3 antibody and an anti-CD28 antibody *in vitro* (see entire document). Both anti-human CD3 and anti-human CD28 antibodies are taught (e.g., page 1939, middle column – OKT3 and mAb9.3 are "anti-human" as evidenced by their reactivity with human T cells). Levine et al. also teach a magnetic immunobead as the solid phase surface and direct immobilization via a covalent modification (e.g., legend of Figure 1).

Although downregulation of an HIV-1 fusion co-factor such as CCR5 is not explicitly demonstrated, the use of identical methodology as that disclosed in the specification as-filed indicates that downregulation of the HIV-1 fusion co-factor CCR5 would be inherent, as evidenced by the resistance of the T cells to infection with the M-tropic (CCR5-dependent) HIV-1 strain.

When a claim recites using an old composition or structure (e.g. a solid phase surface comprising an anti-CD3 antibody and an anti-CD28 antibody) and the use is directed to a result or property of that composition or structure (downregulation of the HIV-1 fusion co-factor CCR5), then the claim is anticipated. See MPEP 2112.02. Also, see Ex parte Novitski 26 USPQ 1389 (BPAI 1993); Mehl/Biophile International Corp. V. Milgraum, 52 USPQ2d 1303 (Fed. Cir. 1999); Atlas Powder Co. V. IRECO, 51 USPQ2d 1943 (Fed. Cir. 1999).

It is noted that the CAFC recently held in Bristol-Myers Squibb Co. v. Ben Venue Laboratories Inc., 58 USPQ2d 1508 (CA FC 2001) that the preamble language in claims is an expression of purpose and intended result, and as such is non-limiting, since the language *does not result in a manipulative difference in the steps of the claims.*

Applicant is reminded that the courts have held that there is no requirement that those of ordinary skill in the art know of the inherent property. See MPEP 2131.01(d) and MPEP 2112 - 2113 for case law on inherency.

8. Claims 1, 55, 60, 75, 87-89, 92 and 94 are rejected under 35 U.S.C. 102(e) as being anticipated by Chang (US Pat. No. 6,129,916, of record, see entire document), as evidenced by Levine et al. (Science 272:1939-1942 1996, IDS #CH).

Applicant's arguments, filed 11/12/02, have been fully considered, but are not found convincing, essentially for the reasons of record. Applicant's arguments are addressed below in the context of the reiterated rejection of record as applied to the amended claims.

Chang teaches and claims a method comprising contacting T cells with a microbead coupled with a plurality of binding molecules specific for an antigen on a human T cell, wherein the binding molecules are an antibody to CD3 and an antibody to CD28 (see entire document, especially claims 1-2 and columns 11-12). Chang et al. teach several methods for immobilizing antibodies on solid phase surfaces such as beads, including direct immobilization via a covalent modification (see especially columns 7-8).

While acknowledging that Chang does "describe" *in vitro* methods in the rationale for the *in vivo* methods, Applicant argues that this is not a "teaching" because Chang is directed to *in vivo* applications.

As previously noted, while Chang teaches and claims an *in vivo* method, Chang does teach the *in vitro* use of a microbead coupled with a plurality of binding molecules specific for an antigen on a human T cell, wherein the binding molecules are an antibody to CD3 and an antibody to CD28 (e.g., column 5, especially lines 31-37). That the *in vitro* method is discussed in the context of later application *in vivo* does not alter the fact that Chang teaches both *in vitro* and *in vivo* methods.

Applicant also argues that because amended claims 60 and 75 now recite that the T cell becomes more resistant to infection by an M-tropic HIV isolate than a T cell not contacted, Chang does not anticipate these claims.

It has been previously noted that although downregulation of HIV-1 fusion co-factors including CCR5 is not explicitly demonstrated, the use of *in vivo* methodology equivalent to that disclosed in the specification as-filed for *in vitro* experiments indicates that downregulation of CCR5 would be an inherent outcome of these methods, irrespective of whether the contacting step is *in vivo* or *in vitro*.

Similarly, the amendment to claims 60 and 75 does not result in a manipulative difference in the steps of the claims. The claims still recite administering the same product in vivo, where contact with a T cell must necessarily occur. While acknowledging that Chang did not appreciate that the results of administration of this product would include downregulation of CCR5 expression in the T cell and an increase in resistant to infection by an M-tropic HIV isolate compared to a T cell not contacted; the courts have held that there is no requirement that those of ordinary skill in the art know of the inherent property. See MPEP 2131.01(d) and MPEP 2112 - 2113 for case law on inherency.

Levine et al. evidence that resistance of T cells to infection with the M-tropic (CCR5-dependent) HIV-1 strain inherently occurs following contact of T cells with a solid phase surface comprising an anti-CD3 antibody and an anti-CD28 antibody *in vitro* (see entire document). Downregulation of CCR5 also is inherent (as evidenced by the resistance to infection by M-tropic HIV strains).

When a claim recites using an old composition or structure (e.g. a solid phase surface comprising an anti-CD3 antibody and an anti-CD28 antibody) and the use is directed to a result or property of that composition or structure (downregulation of the HIV-1 fusion co-factor CCR5 and resistance to infection), then the claim is anticipated. See MPEP 2112.02. Also, see Ex parte Novitski 26 USPQ 1389 (BPAI 1993); Mehl/Biophile International Corp. V. Milgraum, 52 USPQ2d 1303 (Fed. Cir. 1999); Atlas Powder Co. V. IRECO, 51 USPQ2d 1943 (Fed. Cir. 1999).

The rejection is maintained.

9. Claims 1, 55 and 87-90 are rejected under 35 U.S.C. 102(e) as being anticipated by Levine et al. (Int. Immunol. 1995; 7(6):891-904, IDS #CI), as evidenced by Levine et al. (Science 272:1939-1942 1996, IDS #CH).

Levine et al. #CI teach a method comprising contacting T cells with a solid phase surface comprising an anti-CD3 antibody and an anti-CD28 antibody *in vitro* (see entire document, e.g., Table 2 and "Short term T cell cultures" on page 892-893). Both anti-human CD3 and anti-human CD28 antibodies are taught (e.g., page 892 - OKT3 is an anti-human CD3 antibody and 9.3 is an anti-human CD28 antibody, as evidenced by their reactivity with human T cells). Levine et al. also teach a magnetic immunobead as the solid phase surface (e.g., page 892, "Short term T cell cultures").

Levine et al. #CH evidence that resistance of T cells to infection with the M-tropic (CCR5-dependent) HIV-1 strain inherently occurs following contact of T cells with a solid phase surface comprising an anti-CD3 antibody and an anti-CD28 antibody *in vitro* (see entire document). Downregulation of CCR5 also is inherent (as evidenced by the resistance to infection by M-tropic HIV strains).

When a claim recites using an old composition or structure (e.g. a solid phase surface comprising an anti-CD3 antibody and an anti-CD28 antibody) and the use is directed to a result or property of that composition or structure (downregulation of the HIV-1 fusion co-factor CCR5 and resistance to infection), then the claim is anticipated. See MPEP 2112.02. Also, see Ex parte Novitski 26 USPQ 1389 (BPAI 1993); Mehl/Biophile International Corp. V. Milgraum, 52 USPQ2d 1303 (Fed. Cir. 1999); Atlas Powder Co. V. IRECO, 51 USPQ2d 1943 (Fed. Cir. 1999).

It is noted that the CAFC recently held in Bristol-Myers Squibb Co. v. Ben Venue Laboratories Inc., 58 USPQ2d 1508 (CA FC 2001) that the preamble language in claims is an expression of purpose and intended result, and as such is non-limiting, since the language *does not result in a manipulative difference in the steps of the claims*.

Applicant is reminded that the courts have held that there is no requirement that those of ordinary skill in the art know of the inherent property. See MPEP 2131.01(d) and MPEP 2112 - 2113 for case law on inherency.

10. Claims 1, 55 and 87-94 are rejected under 35 U.S.C. 102(e) as being anticipated by June et al. (U.S. Pat. No. 6,352,694, see entire document) as evidenced by Levine et al. (Science 272:1939-1942 1996, IDS #CH).

June et al. teach and claim a method comprising activating a population of human T cell to proliferate by contacting the cells in vitro with an anti-human CD3 antibody immobilized on a solid phase surface and an anti-human CD28 antibody immobilized on the same surface (see entire document, e.g., columns 1-3 "Summary of the Invention" and claims 1-3).

June et al. also teach and claim that the solid phase surface can be a magnetic immunobead (e.g., claims 4-5) or a tissue culture dish (e.g., claim 6). June et al. teach and claim that the antibodies may be immobilized on the solid phase surface by a covalent modification (e.g., claim 7), by an avidin-biotin complex (e.g., claim 8) or by direct immobilization (e.g., claim 9).

Levine et al. #CH evidence that resistance of T cells to infection with the M-tropic (CCR5-dependent) HIV-1 strain inherently occurs following contact of T cells with a solid phase surface comprising an anti-CD3 antibody and an anti-CD28 antibody *in vitro* (see entire document). Downregulation of CCR5 also is inherent (as evidenced by the resistance to infection by M-tropic HIV strains).

When a claim recites using an old composition or structure (e.g. a solid phase surface comprising an anti-CD3 antibody and an anti-CD28 antibody) and the use is directed to a result or property of that composition or structure (downregulation of the HIV-1 fusion co-factor CCR5 and resistance to infection), then the claim is anticipated. See MPEP 2112.02. Also, see Ex parte Novitski 26 USPQ 1389 (BPAI 1993); Mehl/Biophile International Corp. V. Milgraum, 52 USPQ2d 1303 (Fed. Cir. 1999); Atlas Powder Co. V. IRECO, 51 USPQ2d 1943 (Fed. Cir. 1999).

In addition, June et al. teach that the T cells may be T cells from an HIV infected patient (see e.g., columns 28-30 and 51-53).

Applicant is reminded that the courts have held that there is no requirement that those of ordinary skill in the art know of the inherent property. See MPEP 2131.01(d) and MPEP 2112 - 2113 for case law on inherency.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 1, 55, 60, 75, 91 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over *either* Levine et al. (Science 272:1939-1942 1996, IDS #CH) *or* Chang (US Pat. No. 6,129,916, of record), each in view of the well-known and art-recognized use of avidin-biotin complexes to couple antibodies to solid phase surfaces, including tissue culture dishes, as evidenced by Shattil (US Pat No. 5,561,047, of record).

Applicant's arguments, filed 11/12/02, have been fully considered but have not been found convincing, essentially for the reasons of record.

Regarding Levine et al. as evidenced by Shattil, Applicant argues that Levine et al. is not prior art. However, this argument has been addressed supra.

Regarding Chang as evidenced by Shattil, Applicant argues that Chang teaches away from the instant invention by noting that column 11 at lines 13-15 of Chang teaches that many of the in vivo effects of the antibodies linked to beads would not be predicted from the known in vitro effects or the in vivo effects of the whole antibodies. However, this comment does not constitute a teaching away, but rather indicates that the antibodies coupled to beads have properties not predicted for the antibodies in other forms. The instant claims are drawn to methods involving the antibodies coupled to beads.

Applicant does not appear to address the basis of the rejection under 35 USC 103(a) that it was obvious to the ordinary artisan at the time the invention was made to link antibodies to tissue culture dishes as an alternate to beads, or that it was obvious to the ordinary artisan at the time the invention was made that antibodies could be immobilized to a solid phase surface via an avidin-biotin complex.

Thus with respect to the rejection of record regarding the obviousness of these limitations, the rejection is maintained.

The rejection of record is re-iterated below as applied to amended claims 60 and 75.

The claims are drawn to a method comprising contacting T cells with a solid phase surface that is a tissue culture dish comprising anti-CD28 antibody and anti-CD3 antibody, and to a solid phase surface comprising anti-CD28 antibody and anti-CD3 antibody immobilized via an avidin-biotin complex.

Levine et al. and Chang each have been discussed supra and teach a method comprising contacting T cells with a solid phase surface comprising anti-CD28 antibody and anti-CD3 antibody, wherein downregulation of expression of the HIV fusion cofactor CCR5 is an expected outcome of the method.

Neither Levine et al. nor Chang teach immobilizing antibodies on the solid phase surface via an avidin-biotin complex, not that the solid phase surface may be a tissue culture dish.

However, Chang does teach that any of a variety of methods well known in the art at the time the invention was made can be used to link an antibody to a microbead (see entire document, especially columns 7-8).

Further, it was well known in the art at the time the invention was made that a method of immobilizing an antibody on a solid phase surface included formation of a avidin-biotin complex to link the antibody to the surface. For example, Shattil teaches that a biotinylated antibody (PAC-1) can be immobilized on a support material such as a microtiter well coated with the avidin derivative streptavidin (see entire document, especially column 3 at lines 55 onward). Shattil also teaches that streptavidin coated plates are advantageous in that they can be prepared in advance and stored for long periods before use (e.g., bridging sentence of columns 3 and 4).

For *in vitro* methods, one of ordinary skill in the art would expect that beads and plates could be used interchangeably and would function equivalently as a solid phase surface for immobilizing antibodies. Likewise, it would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute any of a number of methods of immobilizing antibodies of interest on a solid phase surface, including via an avidin-biotin complex. Methods of forming biotin-avidin complexes were well known in the art at the time the invention was made, as evidenced by Shattil; therefore the ordinary artisan would have had a reasonable expectation of success in immobilizing an antibody using this method. The ordinary artisan would have been motivated to utilize the biotin-avidin system because, as evidenced by Shattil; the method was well known in the art at the time the invention was made and offered the advantage of preparing the antibody-coated surface in advance. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

13. Claims 60, 75 and 87-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over June et al. (U.S. Pat. No. 6,352,694) as evidenced by Levine et al. (Science 272:1939-1942 1996, IDS #CH), in view of Chang (U.S. Pat. No. 6,129,916, of record).

The claims are drawn to *in vivo* methods for downregulating CCR5 expression in a T cell by contacting the T cell with a solid phase surface comprising an anti-CD28 and an anti-CD3 antibody, wherein the T cell is more resistant to infection by an M-tropic HIV isolate than a T cell not contacted with the solid surface.

June et al. as evidenced by Levine et al. have been discussed supra.

June et al. as evidenced by Levine et al. do not explicitly teach the *in vivo* application of the antibody coated solid surface.

However, Chang has also been discussed supra and Chang does teach that beads comprising anti-CD3 and anti-CD28 can be used for *in vivo* applications.

In addition, June et al. teach that the T cells may be T cells from an HIV infected patient (see e.g., columns 28-30 and 51-53). June et al. note that contacting T cells from an HIV infected patient is useful for increasing the numbers of T cells that can then be returned to the patient, which is therapeutically beneficial to the HIV patient (see especially columns 51-53).

One of ordinary skill in the art at the time the invention was made would have therefore found it obvious to apply the method taught by June et al. *in vivo*. Given the teachings of Chang that the same product used by June et al. *in vitro* could also be used *in vivo*, the ordinary artisan would have had a reasonable expectation that the method of June et al. could also be practiced *in vivo*. In view of the teachings of June et al. of the beneficial effect on T cell numbers when T cells are contacted with beads on which anti-CD3 and anti-CD28 have been co-immobilized, the ordinary artisan would have been motivated to administer the beads in vivo; particularly since an in vivo method would obviate potential sources of secondary infection due to ex vivo expansion of the T cells and would reduce the risk of exposure of health care workers to HIV infected cells. Therefore, the invention as a whole was prima facie obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Double Patenting

14. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

15. Claims 1, 55, 60, 75 and 87-94 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. 6,352,694 either alone or in combination with Chang (U.S. Pat. No. 6,129,916, of record).

Although the conflicting claims are not identical, they are not patentably distinct from each other because as set forth supra, the claims of U.S. Pat. No. 6,352,694 anticipate instant claims 1, 55 and 87-94 because the instant limitations are either explicitly claimed, or are inherent in the method claimed in U.S. Pat. No. 6,352,694.

Regarding instant claims 60 and 75, the application of the method in vivo would be an obvious variation of the method claimed by U.S. Patent No. 6,352,694 in view of the teachings of Chang for in vivo applications of anti-CD3+anti-CD28 beads.

16. No claim is allowed.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica H. Roark, whose telephone number is (703) 605-1209. The examiner can normally be reached Monday to Friday, 8:00 to 4:30. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached at (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1600 receptionist whose telephone number is (703) 308-0196.

Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission. Papers should be faxed to Technology Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center telephone number is (703) 305-3014.

Jessica Roark, Ph.D.
Patent Examiner
Technology Center 1600
January 16, 2003

PHILLIP GAMBEL
PHILLIP GAMBEL, PH.D
PRIMARY EXAMINER
TECH CENTER 1600
1/16/03